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FINAL REPORT
FOR THE
FERGUS COUNTY SMALL PROSPECTS
ABANDONED MINE RECLAMATION
PROJECT

MONT A/E 86-46-136

Robert Peccia & Associates



P.O. Box 4518 810 Hialeah Court Helena, MT 59604 (406) 442-8160



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FERGUS COUNTY SMALL PROSPECTS

ABANDONED MINE RECLAMATION PROJECT

I. INTRODUCTION

The construction phase of the Small Prospects Mine Reclamation Project was scheduled to begin July 15, 1987. Actual construction activity was initiated on July 27, 1987 and substantially completed by August 14, 1987. Fencing and reseeding activity was postponed until October 8, 1987 and was completed October 27, 1987. This reclamation activity was performed by DeBuff Drilling of Lewistown, Montana, under contract with the Montana Department of State Lands, Abandoned Mine Reclamation Bureau MONT A/E 86-46-136.

The reclamation plan was prepared by Robert Peccia & Associates and presented to the Department of State Lands. Engineering plans and specifications were prepared from extensive site study and field work conducted by Robert Peccia & Associates.

The plans and specifications were developed pursuant to the objectives established in Montana's Permanent Program Strip and Underground Mine Reclamation Rules and Regulations, specifically ARM 26.4.1235(3). The primary criteria used for preparing the reclamation plans were the protection of human life, health and safety, the protection of the environment, and the improvement of the use of natural resources.

The contract documents provided specifications for each of the work items scheduled for bid. The contract stipulated that the Contractor would be responsible for performing all work in a manner conducive to fulfilling the project requirements. The quantities supplied in the plans and specifications were identified as approximate, to be used for informational purposes only; and the Contractor was responsible for his own quantity takeoffs and determining the amount of work the intent of the contract entailed.

Robert Peccia & Associates provided the quality control inspection service for all of the work executed under MONT A/E 86-46-136.

Attachment No. 1 lists the items covered under the contract schedule, lists the approximate quantities, and shows the pertinent information for the successful bidder and other bidders on the project. The bid price on this project was \$63,220.00; the final project cost was \$67,731.25.

The project included excavation and disposal of approximately 12,000 cubic yards of coal spoils material; closure of 9 open adits and 3 open shafts; lime application to 5.6 acres; fertilization and seeding 10.0 acres;

mulching 8.0 acres; application of erosion control blanket on 2.0 acres of steep slope and construction of 11,045 lineal feet of Type F-4 barbed wire fence. The project involved 22 individual coal mines and associated disturbances scattered over Fergus County, Montana at 8 different locations.

II. DISCUSSION

DeBuff Drilling of Lewistown, Montana was the lowest bidder for the work outlined in the contract documents with a bid of \$63,220.00. The Agreement for the project was dated July 6, 1987. The Notice to Proceed was dated July 8, 1987; the initial contract period was for 45 consecutive calendar days.

The Contractor commenced work on July 27, 1987. All work except fencing and reseeding activities, was completed by August 14, 1987. Fencing, fertilizing, seeding, and mulching were completed from October 8, 1987 to October 27, 1987.

The major equipment mobilized to the reclamation sites were:

1. Caterpillar D4 dozer
2. Ford 2-Ton Flatbed with Trailer
3. Caterpillar 966-D Loader
4. Bobcat 843 with blade

The Contractor employed two subcontractors to provide assistance in spoil deposition and general hauling on the project: DeBuff Excavating of Harlowton, Montana provided a 12 cubic yard dump truck for hauling spoils and lime. Donnes Construction of Billings, Montana provided a Caterpillar D-7 for spoils disposal.

On initial start-up of the project, landowner Richard Koch informed the Contractor and Resident Inspector that he was no longer interested in having his abandoned mines reclaimed. The Koch sites represented a small part of the project, the total estimated spoils volume being approximately 630 cubic yards. The total estimated spoils volume was originally 7,660 cubic yards for the entire project. Final spoils volume at the time of project completion had increased to approximately 12,000 cubic yards, excluding the dropped sites. No mine-related debris was associated with the Koch sites. Because spoils disposal and debris removal were the only two lump sum items that would be affected by dropping the Koch sites, it was mutually agreed that the increased volume of spoils more than compensated for the loss of the 630 cubic yards. No adjustments were made.

The following briefly describes the work performed at each of the eight work sites.

Swanson Site

The Swanson mine site consisted of four non-contiguous mines along a 1,600-foot section of the west face of Parr Creek ravine. The work at this site included excavation and disposal of approximately 1,450 cubic yards of spoils material; closure of two open adits and one open shaft; disposal of two dilapidated tipple structures and related debris removal; reclamation of 1.85 acres; and construction of 1,363 lineal feet of F-4 barbed wire fence including eight corner panels, one single panel, and installation of two 16-foot farm gates.

Dubois North Site

The Dubois north site is situated in a north/south trending ravine. The six individual coal mines and associated disturbances were non-contiguous on the west facing side of a finger ridge that borders the ravine on the east. Historically, the sites are identified as the Ottot and Barron mines. The work at this site included excavation and disposal of approximately 1,800 cubic yards of spoils; closure of three open adits; reclamation of 1.4 acres; construction of 2,686 lineal feet of F-4 barbed wire fence including 14 corner panels, four single panels and installation of four 16-foot farm gates. The Contractor was authorized equipment use time to generate topsoil not available on the mine sites. Change Order No. 1 reflects the cost of this equipment use.

Dubois Middle Site

The Dubois middle site is situated in a northeast/southwest trending ravine. The four individual coal mines and associated disturbances were non-contiguous on the northwest face of the ravine along a tributary of East Fork Creek. Historically, the sites are identified as the Willard Mines. The work at this site included excavation and disposal of 2,500 cubic yards of spoils material; closure of one open adit; reclamation of 1.25 acres; construction of 1,545 lineal feet of F-4 barbed wire fence including seven corner panels, seven single panels, and installation of four 16-foot farm gates. The Contractor was authorized equipment use time to generate topsoil not available on the mine sites. Change Order No. 1 reflects the cost of this equipment use.

Dubois South Site

The Dubois south site is situated in a northeast/southwest trending ravine. The two individual mine sites were located on the east face of a finger ridge that borders the ravine on the northwest. The work at this site included excavation and disposal of 500 cubic yards of spoils

material; reclamation of .60 acres; construction of 719 lineal feet of F-4 barbed wire fence including three corner panels, five single panels, and installation of one 16-foot farm gate.

Coppedge-Bursheim Site

The Coppedge-Bursheim site is located on the south face of the ravine through which the East Fork of Spring Creek flows. Historically, the site is identified as the Frank McDonald Mine. The work at this site included excavation and disposal of 2,500 cubic yards of spoils material; closure of one open shaft; reclamation of two acres; construction of 1,676 lineal feet of F-4 barbed wire fence including three corner panels, three single panels, and installation of one 16-foot farm gate.

Stewart Site

The Stewart Site consists of three individual mines and associated disturbances located on the south face of a hill. Historically, the site is identified as the Piper Mine. The work at this site included excavation and disposal of approximately 750 cubic yards of spoils material; reconstruction of an eroded drainage; reclamation of 1.35 acres; construction of 1,446 lineal feet of F-4 barbed wire fence including four corner panels, one single panel, and installation of one 16-foot farm gate.

Wagner Site

The Wagner Site is situated at the head of a narrow coulee above an unnamed tributary of McDonald Creek. The site consists of three individual mines and associated disturbances, non-contiguous along the south face of the coulee. Historically, the sites are identified as the Phillips Mine. The work at this site included excavation and disposal of approximately 2,500 cubic yards of spoils material; closure of two open adits; construction of a spoils disposal/topsoil borrow area; reclamation of 1.25 acres; construction of 1,610 lineal feet of F-4 barbed wire fence including five corner panels, one single panel, and installation of one 16-foot farm gate.

Nesselhuf Site

The Nesselhuf Site is situated on the south face of a high bluff that borders the South Fork of McDonald Creek. Historically, the site was identified as the Brodie and Apple Mine. The work at this site included closure of one open shaft and one open adit. Due to the steepness of the slope, it was considered hazardous and impractical to dispose of the spoils. Reclamation of the shaft area was .3 acres. No fencing was required.

Two additional shafts were discovered during reclamation. One was located at the Swanson No. 1 mine and the other at the Coppedge-Bursheim Mine behind the Coppedge residence. Both shafts were shallow, approximately 20 feet deep, and access considerably easier than the Nesselhuf shaft bid for closure in the original bid documents. A decrease in unit price was negotiated to reflect the change in conditions. The cost to close the additional shafts totaled \$1,000.00. This change is included on Change Order No. 1.

Due to steepness of the slopes at many of the mine sites, the plans required furnishing and placing erosion control blankets on those slopes designated by the Resident Inspector. The original area specified in the contract documents was for installing erosion control blanket on 4,840 square yards or one acre. This quantity was increased to two acres or an additional 4,840 square yards. The Contractor furnished and installed the additional blanket at a renegotiated price of \$1.80 per square yard. The amount of the change was \$8,712.00 and is included on Change Order No. 2.

As requested by the Department of State Lands, the Contractor also purchased and delivered to Belt, Montana an additional 136 rolls of erosion control blanket and 13 boxes of staples. Delivery charges and materials amounted to a cost of \$7,598.00. This addition is reflected on Change Order No. 2.

The Contractor seeded all areas by hand utilizing a whirlbird-type broadcast seeder. Straw mulch was also spread by hand. The mulch was crimped into the ground using a homemade tucker equipped with round, notched blades, approximately 18 inches in diameter. The tucker was welded to the blade of the Caterpillar D-4 to increase site accessibility. This method performed the crimping task very well. All slopes not receiving erosion control blanket were mulched and crimped.

III. CONCLUSION

The final contract price for work completed under MONT A/E 86-46-136 was \$67,731.25 including an increase of \$7,598.00 for additions not specific to this project. The final pay request is included as Attachment No. 2.

The Contractor, DeBuff Drilling of Lewistown, Montana, performed the tasks outlined in the specifications very well. Despite a slow start and a lack of familiarity with coal mine reclamation, the Contractor recognized the intent of the plans and demonstrated a desire to achieve high quality results. The Contractor's positive attitude and close supervision of the work facilitated an excellent completion of the project.

Attachment No. 3 is an analysis of construction costs for the project compared with the engineering costs.

ATTACHMENT NO. 1

BID TABS

Contractor:
Location:

ENGINEER'S
FEDERAL

DeBuff Drilling
Gift Edge Route
Lewis town, MT 59457
6023 A

Shumaker Truck. & Exc.
P.O. Box 1442
Great Falls, MT 59403

Gordon Const. Highwood St. Rt.
Box 36 Hills, MT 59405

Item No.	Description	Unit	Quantity Required	Unit Price	Bid Price	Unit Price	Bid Price	Unit Price	Bid Price
1.	Debris Removal	LS	1.0	\$6,500.00	\$6,500.00	\$1,000.00	\$1,000.00	\$6,500.00	\$6,500.00
2.	Waste Disposal Pile	LS	1.0	\$30,000.00	\$30,000.00	\$10,000.00	\$10,000.00	\$13,670.00	\$13,670.00
3.	Close Mine Openings - Adit	EA	11.0	\$900.00	\$9,900.00	\$200.00	\$2,200.00	\$200.00	\$2,200.00
4.	Close Mine Openings - Shaft	EA	1.0	\$600.00	\$600.00	\$1,000.00	\$1,000.00	\$200.00	\$200.00
5.	Lime Application @ 20 tons/ac.	AC	16.5	\$450.00	\$7,425.00	\$800.00	\$13,200.00	\$1,000.00	\$16,500.00
6.	Fertilize and Seed	AC	17.5	\$800.00	\$14,000.00	\$500.00	\$8,750.00	\$350.00	\$6,125.00
7.	Mulch	AC	16.5	\$400.00	\$6,600.00	\$400.00	\$6,600.00	\$400.00	\$6,600.00
8.	Erosion Control Blanket	SY	4,840.0	\$1.80	\$8,712.00	\$1.00	\$4,840.00	\$1.50	\$7,260.00
9.	Remove and Reset Fence	LF	360.0	\$1.00	\$360.00	\$0.50	\$180.00	\$1.00	\$360.00
10.	Farm Fence (Type F-4)	LF	10,300.0	\$1.50	\$15,450.00	\$1.00	\$10,300.00	\$0.85	\$8,755.00
11.	Farm Fence Gate (16-ft.)	EA	9.0	\$100.00	\$900.00	\$50.00	\$450.00	\$50.00	\$450.00
12.	Fence Corner Panels	EA	36.0	\$42.00	\$1,512.00	\$100.00	\$3,600.00	\$75.00	\$2,700.00
13.	Fence Single Panels	EA	22.0	\$35.00	\$770.00	\$50.00	\$1,100.00	\$55.00	\$1,210.00
Total Bid (Actual):					\$102,729.00				
Total Bid (Contractor):					\$63,044.80				
					\$63,220.00				
					\$72,530.00				
					\$85,310.70				

Contractor: 6
Location:
License #:

Montgomery Const.
P.O. Box 755
Hilger, MT 59451

Donnes Construction
4002 McGirl Rd.
Billings, MT 59105
5996 A

Item No.	Description	Unit	Quantity Required	Unit Price	Bid Price	6290 A Unit Price	6023 A Unit Price	5596 A Unit Price	Bid Price
1.	Debris Removal	LS	1.0	\$20,000.00	\$20,000.00	\$3,400.00	\$4,000.00	\$2,000.00	\$4,000.00
2.	Waste Disposal Pile	LS	1.0	\$20,897.00	\$20,897.00	\$43,230.00	\$22,980.00	\$66,500.00	\$22,980.00
3.	Close Mine Openings - Adit	EA	11.0	\$250.00	\$2,750.00	\$700.00	\$1,600.00	\$500.00	\$17,600.00
4.	Close Mine Openings - Shaft	EA	1.0	\$500.00	\$500.00	\$1,000.00	\$2,000.00	\$1,000.00	\$2,000.00
5.	Lime Application @ 20 tons/ac. AC	AC	16.5	\$600.00	\$9,900.00	\$1,000.00	\$900.00	\$1,000.00	\$14,850.00
6.	Fertilize and Seed	AC	17.5	\$1,000.00	\$17,500.00	\$500.00	\$700.00	\$200.00	\$12,250.00
7.	Mulch	AC	16.5	\$250.00	\$4,125.00	\$200.00	\$500.00	\$400.00	\$8,250.00
8.	Erosion Control Blanket	SY	4,840.0	\$1.20	\$5,808.00	\$2.00	\$1.30	\$1.50	\$6,292.00
9.	Remove and Reset Fence	LF	360.0	\$2.00	\$720.00	\$2.00	\$3.00	\$1.00	\$1,080.00
10.	Farm Fence (Type F-4)	LF	10,300.0	\$0.75	\$7,725.00	\$0.80	\$2.25	\$1.00	\$23,175.00
11.	Farm Fence Gate (16-ft.)	EA	9.0	\$50.00	\$450.00	\$100.00	\$100.00	\$1.00	\$900.00
12.	Fence Corner Panels	EA	36.0	\$50.00	\$1,800.00	\$200.00	\$75.00	\$50.00	\$2,700.00
13.	Fence Single Panels	EA	22.0	\$50.00	\$1,100.00	\$100.00	\$50.00	\$75.00	\$1,100.00
Total Bid (Actual):					\$93,275.00	\$112,820.00			\$117,177.00
Total Bid (Contractor):					\$93,275.00	\$112,820.00			\$117,177.00

* Error in Contractor's Bid. Correct amount shown.

Contractor: Youderian Const., Inc.
P.O. Box 239
Location: Stamford, CT 06907
59479

Item No.	Description	Unit	Quantity Required	Unit Price	Bid Price
1.	Debris Removal	LS	1.0	\$2,000.00	\$2,000.00
2.	Waste Disposal Pile	LS	1.0	\$40,400.00	\$40,400.00
3.	Close Mine Openings - Adit	EA	11.0	\$600.00	\$6,600.00
4.	Close Mine Openings - Shaft	EA	1.0	\$500.00	\$500.00
5.	Lime Application @ 20 tons/ac.	AC	16.5	\$1,000.00	\$16,500.00
6.	Fertilize and Seed	AC	17.5	\$550.00	\$9,625.00
7.	Mulch	AC	16.5	\$1,567.50	\$25,863.75
8.	Erosion Control Blanket	SY	4,840.0	\$2.40	\$11,616.00
9.	Remove and Reset Fence	LF	360.0	\$1.75	\$630.00
10.	Farm Fence (Type F-4)	LF	10,300.0	\$1.25	\$12,875.00
11.	Farm Fence Gate (16-ft.)	EA	9.0	\$88.00	\$792.00
12.	Fence Corner Panels	EA	36.0	\$102.00	\$3,672.00
13.	Fence Single Panels	EA	22.0	\$80.00	\$1,760.00
Total Bid (Actual):					\$132,833.75
Total Bid (Contractor):					\$132,833.75

Contractor:

Location:
License #:

Item No.	Description	Unit	Quantity Required
1.	Debris Removal	LS	1.0
2.	Waste Disposal Pile	LS	1.0
3.	Close Mine Openings - Adit	EA	11.0
4.	Close Mine Openings - Shaft	EA	1.0
5.	Lime Application @ 20 tons/ac.	AC	16.5
6.	Fertilize and Seed	AC	17.5
7.	Mulch	AC	16.5
8.	Erosion Control Blanket	SY	4,840.0
9.	Remove and Reset Fence	LF	360.0
10.	Farm Fence (Type F-4)	LF	10,300.0
11.	Farm Fence Gate (16-ft.)	EA	9.0
12.	Fence Corner Panels	EA	36.0
13.	Fence Single Panels	EA	22.0
Total Bid (Actual):			
Total Bid (Contractor):			

ATTACHMENT NO. 2

FINAL PAY REQUEST

RECEIVED

Peccia

DEC 9 1987

ROBERT PECCIA
& ASSOCIATES

PAYMENT REQUEST NO. 2

FROM: 08/14/87

TO: 10/28/87

PROJECT NAME: Small Prospects AMR Project
LOCATION: Fergus County, MT

PROJECT NO.: Mont. A/E 86-46-136

CONTRACTOR: DeBuff Drilling

ADDRESS: Gilt Edge Route
Lewistown, MT 59457

=====

SUMMARY OF PROJECT STATUS

Amount of Original Contract	\$63,220.00
Amount of Approved Change Order(s)	\$4,511.25

TOTAL CONTRACT AMOUNT	\$67,731.25

Contract Time Used to Date (in days)	50
Percentage of Contract Time Used	100.0%
Percentage of Contract Amount Earned	100.0%

=====

Total Contract Amount Completed	\$67,731.25
Amount for Materials on Site	\$0.00

TOTAL TO DATE	\$67,731.25

x 90% = Total Amount Earned to Date	N/A
Less Previous Amount Earned	\$19,022.63

Amount Payable This Period	\$48,708.62
Less 1% Gross Receipts Tax	\$487.09

TOTAL DUE CONTRACTOR THIS PERIOD	\$48,221.53

=====

REQUESTED BY: DeBUFF DRILLING

By: 

Contractor

Date: 11/16/87

CHECKED BY: ROBERT PECCIA & ASSOCIATES, INC.

By: 

Engineer

Date: 12/2/87

APPROVED BY: DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU

By: 

Owner

Date: 12/7/87

PAYMENT REQUEST NO. 2

PROJECT NAME: Small Prospects AMR Project

PROJECT NO: Mont A/E 86-46-136

ITEM NO.	DESCRIPTION	EST. QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETE
1.	Debris Removal	1.0 LS	\$1,000.00	0.0	1.0	\$1,000.00	100.0%
2.	Waste Pile Disposal	1.0 LS	\$10,000.00	0.0	1.0	\$10,000.00	100.0%
3.	Close Mine Openings-Adit	11.0 EA	\$200.00	0.0	11.0	\$2,200.00	100.0%
4.	Close Mine Openings-Shaft	1.0 EA	\$1,000.00	0.0	1.0	\$1,000.00	100.0%
5.	Lime Application @ 20 Tons per Acre (Quantity adj. by C.O. #2, Item 1)	5.6 AC	\$800.00	0.0	5.6	\$4,480.00	100.0%
6.	Fertilize and Seed (Quantity adj. by C.O. #2, Item 2)	10.0 AC	\$500.00	10.0	10.0	\$5,000.00	100.0%
7.	Mulch (Quantity adj. by C.O. #2, Item 3)	8.0 AC	\$400.00	8.0	8.0	\$3,200.00	100.0%
8.	Erosion Control Blanket	4,840.0 LF	\$1.00	4,840.0	4,840.0	\$4,840.00	100.0%
9.	Remove and Reset Fence (Quantity adj. by C.O. #2, Item 4)	375.0 LF	\$0.50	0.0	375.0	\$187.50	100.0%
10.	Farm Fence (Type F-4) (Quantity adj. by C.O. #2, Item 5)	11,045.0 LF	\$1.00	11,045.0	11,045.0	\$11,045.00	100.0%
11.	Farm Fence Gate (16-ft.) (Quantity adj. by C.O. #2, Item 6)	14.0 EA	\$50.00	14.0	14.0	\$700.00	100.0%
12.	Fence Corner Panels (Quantity adj. by C.O. #2, Item 7)	44.0 EA	\$100.00	44.0	44.0	\$4,400.00	100.0%
13.	Fence Single Panels	22.0 EA	\$50.00	22.0	22.0	\$1,100.00	100.0%
Subtotal						\$49,152.50	
Change Order Items Not Included Above:							
Change Order No. 1					\$2,260.75		
Change Order No. 2, Item 8					\$0,712.00		
Change Order No. 2, Item 9					\$6,732.00		
Change Order No. 2, Item 10					\$416.00		
Change Order No. 2, Item 11					\$450.00		
Subtotal Additional Change Order Items						\$18,578.75	
TOTAL						\$67,731.25	

ATTACHMENT NO. 3

ANALYSIS OF CONSTRUCTION
AND ENGINEERING COSTS

ANALYSIS OF CONSULTANT COSTS INCURRED
 FOR THE MONTANA DEPARTMENT OF STATE LANDS
 ABANDONED MINE RECLAMATION BUREAU
 AMR PROJECT NUMBER: MONTANA A/E 86-46-136
 SMALL PROSPECTS AMR PROJECT
 RPA PROJECT NUMBERS: 86-03.7, 87-30.4, AND 87-30.5
 DATE OF PREPARATION: DECEMBER 18, 1987

ENGINEERING SERVICE	AMOUNT

DESIGN ENGINEERING:	
1986 CONTRACT	\$5,509.94
1987 CONTRACT	\$3,546.63

SUBTOTAL DESIGN ENGINEERING COST:	\$9,056.57

CONSTRUCTION ENGINEERING AND PROJECT ADMINISTRATION COST:	
1986 CONTRACT	\$0.00
1987 CONTRACT	\$12,488.71

SUBTOTAL CONSTRUCTION ENGINEERING COST:	\$12,488.71

PROJECT ENGINEERING COST:	\$21,545.28
	=====
CONSTRUCTION COST:	\$67,731.25
	=====

TO CALCULATE PERCENTAGE ENGINEERING FEES TO CONSTRUCTION COST:

DESIGN ENGINEERING/CONSTRUCTION COST	13.3713%
CONSTRUCTION ENGINEERING/CONSTRUCTION COST	18.4386%
TOTAL ENGINEERING COST/CONSTRUCTION COST	31.8100%

EDIT DATE: DECEMBER 18, 1987-----JHP

